

COMMONWEALTH of VIRGINIA

DEPARTMENT OF ENVIRONMENTAL QUALITY

Douglas W. Domenech Secretary of Natural Resources SOUTHWEST REGIONAL OFFICE 355 Deadmore Street, P.O. Box 1688, Abingdon, Virginia 24212 (276) 676-4800 Fax: (276) 676-4899 www.deq.virginia.gov

David K. Paylor Director

Dallas R. Sizemore Regional Director

Federal Operating Permit Article 3

This permit is based upon Federal Clean Air Act acid rain permitting requirements of Title IV, federal operating permit requirements of Title V; and Chapter 80, Article 3 and Chapter 140 of the Commonwealth of Virginia Regulations for the Control and Abatement of Air Pollution. Until such time as this permit is reopened and revised, modified, revoked, terminated or it expires, the permittee is authorized to operate in accordance with the terms and conditions contained herein. This permit is issued under the authority of Title 10.1, Chapter 13, §10.1-1322 of the Air Pollution Control Law of Virginia. This permit is issued consistent with the Administrative Process Act, 9 VAC 5-80-360 through 9 VAC 5-80-700, 9 VAC 5-140-1010 et seq., 9 VAC 5-140-2010 et seq., 9 VAC 5-140-3010 et seq., and 9 VAC 5-140-5010 et seq. of the State Air Pollution Control Board Regulations for the Control and Abatement of Air Pollution of the Commonwealth of Virginia.

Authorization to operate a Stationary Source of Air Pollution as described in this permit is hereby granted to:

| Permittee Name: | Appalachian Power Company (APCO) (dba, American Electric Power (AEP)) |
|--------------------------------|---|
| Facility Name: | Clinch River Plant |
| Facility Address: | Carbo, Russell County, Virginia |
| DEQ Registration No: | 10236 |
| Permit Number: | SWRO10236 |
| Approval Date: | May 8, 2009 |
| Significant Modification Date: | October 12, 2011 |
| Effective Date: | January 1, 2010 |
| Expiration Date: | December 31, 2014 |

Dallas R. Sizemore, Director – Southwest Regional Office Department of Environmental Quality

Attachments: Table of Contents, 2 pages

Permit Conditions, 31 pages

Phase II Acid Rain Permit (Attachment A)

CAIR Permit (Attachment B)

Clinch River Plant Federal Operating Permit Table of Contents

| l. | Fac | cility Information | 1 |
|-------|---------------|--|----|
| II. | Em | ission Units | 2 |
| III. | Fue | el Burning Equipment (Unit Ref. No.'s CR1, CR2, and CR3) | 3 |
| | A. | Limitations | |
| | B. | Monitoring and Recordkeeping | 4 |
| | C. | Testing | 9 |
| IV. | Coa | al Handling (Unit Ref. No.'s CB, SC-1, and CH) | 10 |
| | A. | Limitations | |
| | B. | Monitoring and Recordkeeping | 11 |
| | C. | Testing | |
| V. | Ash | n Handling (Unit Ref. No. AH) | 12 |
| | A. | Limitations | |
| | B. | Monitoring and Recordkeeping | 13 |
| | C. | Testing | |
| VI. | Pha | ase II Acid Rain Conditions | 13 |
| VII. | | gnificant Emission Units | |
| VIII. | | mit Shield and Inapplicable Requirements | |
| | | | |
| IX. | _ | neral Conditions | |
| | Α. | Federal Enforceability | |
| | B. | Permit Expiration | |
| | C. | Recordkeeping and Reporting | |
| | D. | Annual Compliance Certification. | |
| | E. F. | Permit Deviation Reporting | |
| | г. G. | Failure/Malfunction Reporting Severability | |
| | Ы. Н | Duty to Comply | |
| | 1 1. | Need to Halt or Reduce Activity not a Defense | |
| | ۱. J. | Permit Modification | |
| | б. К. | Property Rights | |
| | L. | Duty to Submit Information | |
| | <u></u> М. | Duty to Pay Permit Fees | |
| | N. | Fugitive Dust Emission Standards | |
| | Ο. | Startup, Shutdown, and Malfunction | |
| | О. Р. | Alternative Operating Scenarios | |
| | Q. | Inspection and Entry Requirements | |
| | R. | Reopening For Cause | |
| | | | |

Clinch River Plant

Federal Operating Permit Table of Contents

| | S. | Permit Availability | 24 |
|-----|-----|--|------|
| | T. | Transfer of Permits | 24 |
| | U. | Malfunction as an Affirmative Defense | 24 |
| | ٧. | Permit Revocation or Termination for Cause | . 25 |
| | W. | Duty to Supplement or Correct Application | 25 |
| | X. | Stratospheric Ozone Protection | . 25 |
| | Y. | Asbestos Requirements | . 25 |
| | Z. | Accidental Release Prevention | 26 |
| | AA. | Changes to Permits for Emissions Trading | 26 |
| | BB. | Emissions Trading | 26 |
| X. | NO | X Budget Trading Permit Requirements | 26 |
| | A. | General Conditions | 26 |
| | B. | Standard Requirements | . 27 |
| | C. | Recordkeeping and Reporting Requirements | . 29 |
| | D. | Certification | |
| | E. | Liability | 30 |
| | F. | Effect on Other Authorities | .31 |
| XI. | Cle | an Air Interstate Rule (CAIR) Requirements | .31 |

Operating Permit SWRO10236 Clinch River Plant APCO/AEP Page 1 of 31

I. Facility Information

| Permittee | | <u>Facility</u> | |
|-----------|--|--------------------|--|
| remillee | | | |
| | | Clinch River Plant | |

Appalachian Power Company (APCO) (dba, American Electric Power (AEP)) 1 Riverside Plaza Columbus, OH 43215-2373

Responsible Official Contact Person

Mr. Jeffery D. LaFleur Vice President, Generating Assets Appalachian Power Company

NO_X Budget Trading Program Authorized Account Representative

Mr. John M. McManus. Vice President, Environmental Services Mr. John C. Hendricks Manager, Air Quality Environmental Services

NO_X Budget Trading Program
Alternate Authorized Account Rep.

Mr. John C. Hendricks Manager, Air Quality Environmental Services

DEQ Plant Identification Number: 51-167-00003 NATS Facility Identification Number: 003775 Facility Description: SIC 4911 - Electric Services

NAICS 221112 - Fossil Fuel Electric Power Generation

The Clinch River Plant is a coal-fired electric power generating facility utilizing three (3) coal-fired radiant tube boilers nominally rated at 2,100.9 MMBtu/hr each. Each of the three units utilizes coal and distillate oil for firing (but each also has the capacity to burn used oil, ion exchange resins, and metal cleaning fluid as supplemental fuels). The boilers produce high pressure, high temperature steam which is used to turn turbines coupled to electric generators. Each of the three generators at the Clinch River Plant is nominally rated at 235 net megawatts (MW) of electrical output. Units #1 and #2, which share a common stack, were constructed in 1958. Unit #3 was constructed in 1961.

Coal is delivered to the facility by railcar and truck and temporarily stored in open storage piles. The coal is conveyed into the plant and stored in bunkers prior to entering the pulverizers. The pulverizers crush the coal to a fine particle size so that it is swept into the boilers by the primary combustion air. Water passing through piping is heated and converted into steam which is passed through high and low pressure turbines, condensed and recirculated back to each boiler. Each boiler exhaust is equipped with SNCR systems that inject urea to react with nitrogen oxides to produce water, nitrogen, and carbon dioxide. The coal combustion gases are then passed through high efficiency electrostatic precipitators (ESP's) that are designed to remove 99.6% of the entrained particulate matter. The ash collected from the boilers (bottom ash) and the ESP's (fly ash) is either pumped as a slurry to a settling pond, landfilled, or beneficially reused.

Emission units at the facility include the three Babcock & Wilcox (B&W) radiant tube boilers, the ash handling system, and the coal storage and handling system.

The facility is a major source of NO $_{\rm X}$, SO $_{\rm 2}$, PM-10, CO, hydrogen fluoride, hydrochloric acid, and total hazardous air pollutant (HAP) emissions. This source is located in an attainment area for all criteria pollutants. The facility is permitted under a Phase II Acid Rain Permit (Attachment A) that is in effect from January 1, 2010 through December 31, 2014.

II. Emission Units

Equipment to be operated consists of:

| Emission Unit ID | Stack ID | Emission Unit Description | Size/Rated Capacity | Pollution Control Device (PCD) Description | PCD ID | Pollutant Controlled |
|---------------------|---|--|--|---|--------|-------------------------|
| Fuel Burni | ng Equip | ment | | | | |
| | | Babcock and Wilcox Radiant Tube | 2100.9 | Koppers Electrostatic Precipitator | 1ESP | Particulate |
| CR1 | CS012 | Boiler (RB-363) Constructed 1958 | MMBtu/hr | Advanced Combustion Technology SNCR Equipment w/ Urea Injection | SNCR1 | NO_X |
| | | Babcock and Wilcox Radiant Tube | 2100.9 | Koppers Electrostatic Precipitator | 2ESP | Particulate |
| CR2 | CS012 | Boiler (RB-363) Constructed 1958 | MMBtu/hr | Advanced Combustion Technology SNCR Equipment w/ Urea Injection | SNCR2 | NO_X |
| | | Babcock and Wilcox Radiant Tube | 2100.9 | Koppers Electrostatic Precipitator | 3ESP | Particulate |
| CR3 | CR3 | Boiler (RB-363) Constructed 1961 | MMBtu/hr | Advanced Combustion Technology SNCR Equipment w/ Urea Injection | SNCR3 | NO_X |
| Coal Blend | ling, Prod | cessing & Handling Equipment | | | | |
| SC-1 | - | Coal Additive Screw Conveyor w/ Feed Hopper | 2.7 tons/hr | - | - | - |
| СВ | - | Raw Coal Blending Equipment: | | - | - | - |
| | onveyor 2 BDT1 & 2 BF1 & 2 B1 & B2 | Coal Stackout Conveyor (2) Dozer Trap Feeders (2) Feed Transfer Conveyors (2) Blend Coal Feed Conveyors | 950 tons/hr 450 tons/hr 450 tons/hr 450 tons/hr | - | - | - |
| СН | - | Conveyors, samplers, transfer stations, rail and truck unloading facilities | 950 tons/hr | - | - | - |
| Ash Handli | Ash Handling | | | | | |
| AH (fly ash) | Silo | Vacuum pumps, ash storage silo, etc. | 648 tons/day | enclosure and wet suppression | - | Particulate |
| AH (bottom ash) | - | Pumps, piping, settling pond, etc. | 162 tons/day | enclosure and wet suppression | - | Particulate |

III. Fuel Burning Equipment (Unit Ref. No.'s CR1, CR2, and CR3)

A. Limitations

- Except during malfunctions, low NO_X burners and selective non-catalytic reduction (SNCR) systems shall be continuously operated on each of the three boilers (Units 1, 2, and 3), consistent with the technological limitations, manufacturers' specifications, and good engineering and maintenance practices for such equipment and the Units so as to minimize emissions to the greatest extent practicable.
 (9 VAC 5-80-490 B and Paragraphs 14 and 69 of the October 2007 Federal Consent Decree)
- 2. The ammonia slip in each boiler exhaust shall not exceed 2.0 parts-per-million (ppm) as a monthly average. The ammonia slip in each boiler exhaust shall be monitored continuously and the average hourly concentration shall be recorded. The average monthly concentration shall be determined as the sum of the hourly concentrations recorded during that month divided by the unit operating time in hours.
 - (9 VAC 5-80-490 B and Condition 6 of the NSR permit dated 3/23/2010)
- 3. The sulfur content of the coal feedstock to the B&W Radiant Tube Boilers shall be maintained at levels such that the resulting sulfur dioxide (SO₂) emissions comply with the emission limitations in Condition III.A.6 of this permit. A nuclear coal analyzer will be used to obtain real-time data pertaining to the physical properties of the coal feed to the unit bunkers. (9 VAC 5-80-490 B and Condition 3 of the SOP dated 1/13/2009 (as amended 10/19/2009))
- Particulate emissions from the operation of each of the three boilers (Units 1, 2, and 3) shall not exceed 0.113 lbs/MMBtu of actual heat input.
 (9 VAC 5-40-900 and 9 VAC 5-80-490 B)
- Emissions from the operation of the selective non-catalytic reduction systems (Reference No.'s SNCR1, SNCR2, and SNCR3) shall not exceed the limits specified below:

PM-10 0.997 lbs/hr per boiler 13.10 tons/yr combined

These emissions are derived from the estimated overall emission contribution from operating limits. Exceedance of the operating limits shall be considered credible evidence of the exceedance of emission limits. Compliance with these emission limits may be determined by demonstrating compliance with the average monthly concentration of ammonia slip as defined in Condition III.A.2. (9 VAC 5-80-490 B and Condition 8 of the NSR permit dated 3/23/2010)

6. Sulfur dioxide emissions from the operation of each of the three B&W Radiant Tube Boilers (Units 1, 2, and 3) shall not exceed the limits specified below:

| Sulfur Dioxide Limit | Stack 1 | Stack 2 |
|---|-----------------------------------|----------------------------------|
| 3-Hour Block Average* | 1.08 lbs/MMBtu 4537.94 lbs/hr | 1.08 lbs/MMBtu 2268.97 lbs/hr |
| 24-Hour Block Average* | 1.05 lbs/MMBtu 105,886 lbs/day | 1.05 lbs/MMBtu 52,943 lbs/day |
| Annual Total | 19,324 tons/yr | 9,662 tons/yr |
| ** Plant-Wide Annual Rolling Average Tonnage Limitation - Calendar years 2010 - 2014 - Calendar years 2015 and thereafter | 21,700 tons/yr 16,300 tons/yr | |

Compliance with the limitations contained in this condition shall be determined using data and information resultant from and required by Conditions III.B.1, III.A.3, III.B.2 and III.B.4 of this permit and any other credible information or data, as approved by the Director, Southwest Regional Office.

- * The term "3-hour block average" is defined as non-overlapping 3-hour averages, beginning at midnight, as described in 40 CFR Part 50. The term "24-hour block average" is defined as the average of the 24 hourly values from midnight to midnight, as described in 40 CFR Part 50.
- ** The "Plant-Wide Annual Rolling Average Tonnage" is the sum of the tons of SO₂ emitted during the most recent month and the previous eleven (11) months of operation, including periods of startup, shutdown, and malfunction. For the time periods that begin in 2010 and 2015, the periods between January 1 and December 31 in those years shall be used to establish the respective initial annual period.
 (9 VAC 5-80-490 B and Conditions 5 and 6 of the SOP dated 1/13/2009 (as amended 10/19/2009))
- 7. Visible emissions from each boiler stack shall not exceed 20% opacity, except for one six-minute period in any one hour in which visible emissions shall not exceed 60% opacity.
 - (9 VAC 5-40-80 and 9 VAC 5-80-490 B)

B. Monitoring and Recordkeeping

1. The B&W Radiant Tube Boilers' exhaust stacks (CS012 and CR3) shall be equipped with devices to continuously measure and record the concentrations of sulfur dioxide emissions. Each monitoring device shall be installed, maintained, calibrated and operated in accordance with approved procedures which shall include, as a minimum, the manufacturer's written requirements or recommendations. Each monitoring device shall be provided with adequate access for inspection and shall be in operation when the boilers are operating. Data from sulfur dioxide continuous emission monitoring systems that were installed and in operation at this source prior to January 13, 2009, that also meet

all applicable regulatory requirements, may be used to meet the monitoring requirements of this condition.

(9 VAC 5-80-490 B and Condition 2 of the SOP dated 1/13/2009 (as amended 10/19/2009))

- 2. The permittee shall install, certify, maintain, and operate continuous monitoring systems on each of the B&W Radiant Tube Boilers' exhaust stacks (CS012 and CR3) for sulfur dioxide (SO₂), nitrogen oxides (NO_X), opacity, and carbon dioxide (CO₂). The monitoring systems shall incorporate automated data acquisition and handling systems for measuring and recording:
 - SO₂ concentration (in ppm);
 - volumetric gas flow (in scfh);
 - SO₂ mass emissions (in lb/hr);
 - NO_X concentration (in ppm);
 - O₂ or CO₂ concentration (in percent O₂ or CO₂);
 - NO_x emission rate (in lb/MMBtu); and
 - opacity.

40 CFR Part 75 requires annual relative accuracy test audits (RATA) for each monitor or continuous monitoring system. (40 CFR Part 75.10(a))

3. The permittee shall, not less than once each calendar week, either sample and analyze the coal or cause the coal to be sampled and analyzed in such a manner and at appropriate location(s) to obtain representative data of sulfur content on an as-fired basis. Fuel sampling shall be conducted in accordance with ASTM Method D2013, D2234, or other DEQ-approved methods. Fuel analyses shall be conducted in accordance with test methods D2492, D3177, or D4239 for sulfur content, and D5865 for calorific (Btu) content, or other DEQ-approved methods. The results of the fuel analyses shall be reported to the DEQ, Director Southwest Regional Office quarterly, within 30 calendar days after the end of the calendar quarter. The report shall contain the dates the samples were collected, company and individual collecting the sample, identification of sampling method used, sample mass, number of samples (if composite sample), location of fuel when sample taken, date of analysis, and company and individual conducting the analysis.

The permittee shall also obtain a sulfur analysis on each shipment of coal received that indicates sulfur content on a weight percent basis. Fuel supplier certifications may be used for this purpose. The following information shall be obtained on each shipment of coal received:

- a. The name of the fuel supplier;
- b. The date on which the coal was received;

- c. The quantity of coal delivered in the shipment;
- d. The sulfur content of the coal delivered, expressed in weight percent;
- e. Documentation of sampling of the coal, indicating the location of the fuel when the sample was taken, and;
- f. The methods used to determine the sulfur content of the coal.

The fuel supplier certifications and information detailed in a - f above shall be reported to the DEQ, Director Southwest Regional Office quarterly, within 30 calendar days after the end of the calendar quarter. The permittee shall provide the details, computations, and calculations used to determine sulfur content on an as-received basis and on an as-fired basis.

Fuel sampling and analysis, independent of that used for certification, may be required or conducted by DEQ. (9 VAC 5-80-490 B and Condition 4 of the SOP dated 1/13/2009 (as amended 10/19/2009))

- 4. The permittee shall maintain records of all emission data and operating parameters necessary to demonstrate compliance with this permit. The content of and format of such records shall be arranged with the Director, Southwest Regional Office. These records shall include, but are not limited to:
 - a. Continuous monitoring system data on both boiler stacks (CS012 and CR3) for sulfur dioxide (SO₂) emissions and opacity;
 - b. The tons of coal consumed in each of the three boilers (Units 1, 2, and 3) on a daily, monthly, and annual basis;
 - c. All fuel certifications, as specified in Condition III.B.2;
 - d. Quarterly emissions calculations for sulfur dioxide, as required in Condition III.B.5, to demonstrate compliance with the emissions limitations in Condition III.A.6;
 - e. The sulfur (weight %), ash (weight %), and heat content (Btu/lb) of the coal combusted in Units 1, 2, and 3;
 - f. The average hourly ammonia slip concentration for each boiler exhaust, expressed in parts-per-million (ppm); and
 - g. Scheduled and unscheduled boiler maintenance, and operator training.

These records shall be available on site for inspection by the DEQ and shall be current for the most recent five (5) years. (9 VAC 5-40-50, 9 VAC 5-80-490, Condition 7 of the SOP dated 1/13/2009 (as amended 10/19/2009), and Condition 12.b of the NSR permit dated 3/23/2010)

5. Within 30 days of the end of each calendar quarter, the permittee shall prepare and maintain reports of SO₂ emissions in lb/hr and lb/MMBtu for each boiler stack (1 and 2), expressed on hourly, 3-hour block average, and 24-hour block average

Operating Permit SWRO10236 Clinch River Plant APCO/AEP Page 7 of 31

bases. Beginning with the third quarter of 2009 and continuing for a period of two (2) calendar years, copies of these reports shall be submitted to the Director, Southwest Regional Office, within the 30 day period. (9 VAC 5-80-490 and Condition 8 of the SOP dated 1/13/2009 (as amended 10/19/2009))

- 6. In the event that any affected facility or related air pollution control equipment fails or malfunctions in such a manner that may cause excess emissions for more than one hour, the owner shall, as soon as practicable but no later than four daytime business hours after discovery, notify the Director, Southwest Regional Office, by facsimile transmission, telephone or telegraph of such failure or malfunction. When the condition causing the failure or malfunction has been corrected and the equipment is again in operation, the owner shall notify the Director, Southwest Regional Office.
 (9 VAC 5-20-180 C and 9 VAC 5-80-650)
- 7. <u>Compliance Assurance Monitoring (CAM)</u> The permittee shall monitor, operate, calibrate and maintain the electrostatic precipitators according to the Compliance Assurance Monitoring (CAM) Plan summarized in the above table.
 - Opacity Monitoring Corrective Action Plan The following corrective action plan will be implemented at any time there is significant or a sudden increase in the stack opacity above normal operating levels. For the purposes of this plan, "significant opacity" is defined as a repetitive, non-exempt, six-minute average COMS value of more than 20%. "Short duration significant opacity" is defined as COMS values that exceed 20% opacity for more than five, but less than ten consecutive 6-minute periods (more than 30 but less than 60 minutes). "Sustained significant opacity" is defined as COMS values that exceed 20% opacity for ten or more consecutive 6-minute periods (60 minutes or longer). These corrective action procedures do not apply to significant opacity that occur once per hour, those caused by monitor malfunction, calibration, or maintenance, or those occurring during equipment or source malfunctions.
 - a. Short duration significant opacity: Plant personnel will continue to monitor the COMS data and will initiate a collection and review of other available operating information (such as TR set status, voltage, current, etc.) in order to identify the cause of the significant opacity readings. Once the cause of the significant opacity is determined, plant personnel will take necessary steps to remedy the causal unit operating condition or equipment failure/malfunction.

Compliance Assurance Monitoring (CAM) Plan – Electrostatic Precipitators

| Indicator | No. 1 - Opacity | No. 2 – ESP Electrical Data | No.3 – ESP Inspections | No. 4 – PM Emissions Testing |
|---|--|---|--|--|
| Measurement Approach | Continuous Opacity Monitoring Systems (COMS) | Transformer Rectifier (TR) set primary & secondary voltage and amperage level observations. | External inspections of the ESP are conducted on a daily basis. Internal inspections are conducted as needed during appropriate unit outages. | Particulate mass emissions testing (Method 5 or other approved test method). |
| Indicator Range | An excursion is defined as any non-exempt 6-minute COMS measurement of more than 20% opacity. | An excursion is defined as considerable variation in the voltage or amperage over several hours and/or readings that are outside of normally expected ranges considering unit operating conditions. | An excursion is defined as any inspection that reveals operations and/or equipment problems that significantly impact the proper operation of the ESP. | An excursion is defined as any mass emissions test that shows PM emissions in excess of 0.113 lbs/MMBtu. |
| Quality Improvement Plan (QIP) Threshold | Data indicating compliance < 98.5% of the operating quarter. | Operating ESP's at maximum power does not control average opacity to < 20%. | N/A | Any particulate stack test reporting more than 0.09 lb/MMBtu (80% of standard). |
| Verification of Operational Status | COMS will be installed, certified, and operated in accordance with 40 CFR Part 60, Appendix B, Performance Specification 1 | The electrical voltage and amperage gauges shall be installed and calibrated in accordance with the manufacturer's recommendations. | N/A | N/A |
| QA/QC Practices and Criteria | COMS will be inspected and maintained in accordance with the plant's monitoring plan and the manufacturer's recommendations. | Trained personnel shall perform the regular monitoring, operation, calibration, and maintenance of the ESP electrical components. | Trained personnel perform the inspection, maintenance, and repair duties. | Certified personnel shall perform the particulate emissions testing (Method 5). |
| Monitoring Frequency | Continuous – 6-minute averages | Hourly during COM's excursions. | Daily external Inspections. Internal inspections are to be made during each scheduled unit outage of 72 consecutive hours and in no event less than once per calendar year | At least once per 5-year permit term, and in accordance with 40 CFR Part 60, Appendix A, Methods 1-5. |

- b. <u>Sustained significant opacity</u>: If the stack opacity does not return to and remain at normal operating levels within a period of 60 minutes, and the cause of the significant opacity is not known, plant personnel will continue to evaluate unit and auxiliary operating data for the purpose of identifying the cause and initiate appropriate corrective actions. Appropriate corrective actions will include the following:
 - i. Insure that ESP's are operating at maximum achievable power levels.
 - ii. Any individual TR sets that are out-of-service or not operating at optimum power levels shall be repaired and/or adjusted as appropriate.
 - iii. ESP rapping procedures may be initiated and/or adjusted as necessary.
 - iv. Flue gas conditioning systems will be placed in service or adjusted as necessary.
 - v. Other corrective actions as deemed appropriate based on observed conditions.

If the opacity level continues to exceed the 20% limit after these corrective actions have been implemented, plant personnel will contact appropriate management staff to obtain necessary approvals to reduce load, or commence a unit shutdown.

8. In the event that any affected facility or related air pollution control equipment fails or malfunctions in such a manner that may cause excess emissions for more than one hour, the owner shall, as soon as practicable but no later than four daytime business hours after discovery, notify the Director, Southwest Regional Office, by facsimile transmission, telephone or telegraph of such failure or malfunction. When the condition causing the failure or malfunction has been corrected and the equipment is again in operation, the owner shall notify the Director, Southwest Regional Office.
(9 VAC 5-20-180 C and 9 VAC 5-80-650)

C. Testing

- The permittee shall perform particulate emissions tests on each stack at least once during the term of this permit. These tests shall be conducted within two (2) years of the effective date of this permit. (9 VAC 5-80-490)
- If testing is conducted in addition to the monitoring specified in this permit, the permittee shall use the appropriate method(s) in accordance with procedures approved by the DEQ. (9 VAC 5-80-490)

IV. Coal Handling (Unit Ref. No.'s CB, SC-1, and CH)

A. Limitations

- Particulate emissions from the blend coal equipment (Reference No.'s BDT1, BDT2, BF1, BF2, and Conveyors 2, B1, and B2) shall be controlled by wet suppression, or equivalent. The wet suppression system shall be provided with adequate access for inspection.
 - (9 VAC 5-80-490 B and Condition 3 of the NSR permit dated 3/23/2010)
- Particulate emissions from the coal additive screw conveyor system (Reference No. SC-1) shall be controlled by full enclosure, or equivalent. The coal additive screw conveyor system and enclosure shall be provided with adequate access for inspection.
 - (9 VAC 5-80-490 B and Condition 2 of the NSR permit dated 3/23/2010)
- 3. The throughput of coal to the blend coal equipment (Reference No.'s BDT1, BDT2, BF1, BF2, and Conveyors 2, B1, and B2) shall not exceed 2,771,400 tons per year, calculated monthly as the sum of each consecutive 12-month period. Compliance for the consecutive 12-month period shall be demonstrated monthly by adding the total for the most recently completed calendar month to the individual monthly totals for the preceding 11 months.
 (9 VAC 5-80-490 B and Condition 7 of the NSR permit dated 3/23/2010)
- 4. The throughput of hydrated lime and/or fly ash in the coal additive screw conveyor (Reference No. SC-1) shall not exceed 100 tons per year, calculated monthly as the sum of each consecutive 12-month period. Compliance for the consecutive 12-month period shall be demonstrated monthly by adding the total for the most recently completed calendar month to the individual monthly totals for the preceding 11 months.
 (9 VAC 5-80-490 B and Condition 5 of the NSR permit dated 3/23/2010)
- 5. Emissions from the operation of the blend coal equipment (Reference No.'s BDT1, BDT2, BF1, BF2, and Conveyors 2, B1, and B2) shall not exceed the limits specified below:

PM-10 0.51 lbs/hr 1.36 tons/yr

These emissions are derived from the estimated overall emission contribution from operating limits. Exceedance of the operating limits shall be considered credible evidence of the exceedance of emission limits. Compliance with these emission limits may be determined as stated in Conditions IV.A.1 and IV.A.3. (9 VAC 5-80-490 B and Condition 9 of the NSR permit dated 3/23/2010)

6. Visible emissions from the blend coal equipment (Reference No.'s BDT1, BDT2, BF1, BF2, and Conveyors 2, B1, and B2) shall not exceed twenty percent (20%) opacity as determined by EPA Method 9 (reference 40 CFR 60, Appendix A).

This condition applies at all times except during startup, shutdown and malfunction.

(9 VAC 5-80-490 B and Condition 11 of the NSR permit dated 3/23/2010)

- 7. Visible emissions from the coal additive screw conveyor system (Reference No. SC-1) shall not exceed ten percent (10%) opacity as determined by EPA Method 9 (reference 40 CFR 60, Appendix A). This condition applies at all times except during startup, shutdown and malfunction.
 (9 VAC 5-80-490 B and Condition 10 of the NSR permit dated 3/23/2010)
- 8. No owner or other person shall cause or permit to be discharged into the atmosphere from any affected facility any visible emissions which exhibit greater than 20% opacity, except for one six-minute period in any hour of not more than 60% opacity. Failure to meet these requirements due to the presence of water vapor shall not be a violation of 9 VAC 5-40-80. (9 VAC 5-40-80 and 9 VAC 5-80-490 B)
- The allowable particulate emissions from each coal processing and handling unit shall not exceed 76.9 lb/hr.
 VAC 5-40-260 and 9 VAC 5-80-490 B)

B. Monitoring and Recordkeeping

- 1. The permittee shall maintain records of all emission data and operating parameters necessary to demonstrate compliance with this permit. The content of and format of such records shall be arranged with the Director, Southwest Regional Office. These records shall include, but are not limited to coal shipments received by both rail and truck delivery. These records shall be available on site for inspection by the DEQ and shall be current for the most recent five (5) years.
 - (9 VAC 5-40-50 and 9 VAC 5-80-490)
- 2. The permittee shall maintain records of emission data and operating parameters as necessary to demonstrate compliance with this permit. The content and format of such records shall be arranged with the Director, Southwest Regional Office. These records shall include, but are not limited to:
 - a. The annual consumption of hydrated lime and fly ash coal additives, calculated as the sum of each consecutive 12-month period.
 - b. The annual offloading and throughput of blend coal, calculated monthly as the sum of each consecutive 12-month period.

These records shall be available for inspection by the DEQ and shall be current for the most recent five years.

- (9 VAC 5-80-490 and Condition 12 of the NSR permit dated 3/23/2010)
- 3. Visible emission checks shall be conducted at least once weekly on the coal handling operations to show compliance with opacity limits on visible emissions

as specified in condition IV.A.1 of this permit. These checks shall be conducted during periods of normal facility operation for a sufficient time interval to determine the presence of any visible emissions using 40 CFR 60 Appendix A, Method 22. If visible emissions appear to exceed ten percent (10%) opacity during these weekly observations, or at any other time, visible emissions evaluations (VEE's) in accordance with 40 CFR 60 Appendix A, Method 9 shall be conducted on the affected coal processing equipment. The VEE shall be conducted for a minimum of six (6) minutes. A Method 9 evaluation shall not be required if the visible emissions appear less than 10 percent (10%) opacity in a timely manner; the emissions unit is operating at normal conditions; and the cause and corrective measures taken are recorded. A record of each visible emissions observation shall be maintained, including any data required by 40 CFR 60 Appendix A, Method 22 or Method 9, whichever is appropriate. The record shall include, at a minimum, the date, time, name of the emission unit, the applicable visible emissions requirement, the results of the observation, and the name of the observer.

(9 VAC 5-40-20 and 9 VAC 5-80-490 K)

C. Testing

If testing is conducted in addition to the monitoring specified in this permit, the permittee shall use the appropriate method(s) in accordance with procedures approved by the DEQ (9 VAC 5-80-490)

V. Ash Handling (Unit Ref. No. AH)

A. Limitations

- No owner or other person shall cause or permit to be discharged into the atmosphere from any affected facility any visible emissions which exhibit greater than 20% opacity, except for one six-minute period in any hour of not more than 60% opacity. Failure to meet these requirements due to the presence of water vapor shall not be a violation of 9 VAC 5-40-80. (9 VAC 5-40-80 and 9 VAC 5-80-490 B)
- The allowable particulate emissions from each bottom ash processing and handling unit shall not exceed 15.1 lb/hr.
 (9 VAC 5-40-260 and 9 VAC 5-80-490 B)
- The allowable particulate emissions from each fly ash processing and handling unit shall not exceed 37.3 lb/hr.
 VAC 5-40-260 and 9 VAC 5-80-490 B)

B. Monitoring and Recordkeeping

- 1. The permittee shall maintain records of all emission data and operating parameters necessary to demonstrate compliance with this permit. The content of and format of such records shall be arranged with the Director, Southwest Regional Office. These records shall include, but are not limited to, the ash content and quantity of coal combusted in Units 1, 2, and 3. These records shall be available on site for inspection by the DEQ and shall be current for the most recent five (5) years.
 - (9 VAC 5-40-50 and 9 VAC 5-80-490)
- 2. Visible emission checks shall be conducted at least once weekly on the fly ash silo loadout to show compliance with opacity limits on visible emissions as specified in condition V.A.1 of this permit. These checks shall be conducted during periods of normal facility operation for a sufficient time interval to determine the presence of any visible emissions using 40 CFR 60 Appendix A, Method 22. If visible emissions appear to exceed ten percent (10%) opacity during these weekly observations, or at any other time, visible emissions evaluations (VEE's) in accordance with 40 CFR 60 Appendix A, Method 9 shall be conducted on the affected ash handling units. The VEE shall be conducted for a minimum of six (6) minutes. A Method 9 evaluation shall not be required if the visible emissions appear less than 10 percent (10%) opacity in a timely manner; the emissions unit is operating at normal conditions; and the cause and corrective measures taken are recorded. A record of each visible emissions observation shall be maintained, including any data required by 40 CFR 60 Appendix A, Method 22 or Method 9, whichever is appropriate. The record shall include, at a minimum, the date, time, name of the emission unit, the applicable visible emissions requirement, the results of the observation, and the name of the observer.

(9 VAC 5-40-20 and 9 VAC 5-80-490 K)

C. Testing

If testing is conducted in addition to the monitoring specified in this permit, the permittee shall use the appropriate method(s) in accordance with procedures approved by the DEQ. (9 VAC 5-80-490)

VI. Phase II Acid Rain Conditions

A. Emissions from Units 1, 2, and 3 at the Clinch River Plant may not exceed any allowances the respective unit holds under its Title IV acid rain permit. The Phase II Acid Rain Permit for the Clinch River Plant, issued pursuant to 9 VAC 5-80-360, et seq., is incorporated by reference into this permit. The Phase II Acid Rain Permit is Attachment A to this document.

(40 CFR Part 70, section 70.6(a)(4))

B. Where an applicable requirement of the Clean Air Act, or of this permit, is more stringent than an applicable requirement from state or federal regulations promulgated under Title IV of the Clean Air Act, both provisions appear in this Permit and both are enforceable by the Administrator of the U.S. Environmental Protection Agency.

(40 CFR Part 70, section 70.6(a)(1)(ii))

- C. No permit revision shall be required for increases in emissions that are authorized by allowances acquired pursuant to Title IV of the federal Clean Air Act or 9 VAC 5-80-360, et seq., provided that such increases do not require a permit revision under any other applicable requirement. (40 CFR Part 70, section 70.6(a)(4)(i))
- D. This facility may hold any number of allowances authorized by its acid rain permit. However, the source may not use these allowances as a defense to a non-compliance with any other applicable requirement.

 (40 CFR Part 70, section 70.6(a)(4)(ii))
- E. Any allowance authorized by this facility's acid rain permit shall be accounted for according to procedures established under 9 VAC 5-80-360, et seq., or under federal regulations pursuant to Title IV of the Clean Air Act. (40 CFR Part 70, section 70.6(a)(4)(iii))
- F. Nothing in this permit shall alter or affect the applicable requirements of the acid rain program pursuant to Title IV of the Clean Air Act. (40 CFR Part 70, section 70.6(f)(3)(iii))

VII. Insignificant Emission Units

The following emission units at the facility are identified in the application as insignificant emission units under 9 VAC 5-80-720:

| Emission Unit No. | Emission Unit Description | Pollutant Emitted (5-80-720 B.) | Rated Capacity (5-80-720 C.) |
|----------------------|--|---|--|
| Tank 110 | 110,000 gallon Fuel Oil Tank | VOC | 110,000 gal |
| Gas | Underground Storage Tank - Gasoline | VOC | 1000 gal |
| TP | Thaw Pit Burners | SO ₂ , NO _x , Particulate, VOC | 168 gal/hr (Typical use is <150 hr/yr) |
| TL1 | Turbine Lube Oil Tank (Unit 1) | VOC | 9870 gal (approx) |
| TL2 | Turbine Lube Oil Tank (Unit 2) | VOC | 9870 gal (approx) |
| TL3 | Turbine Lube Oil Tank (Unit 3) | VOC | 1000 gal |

| Emission Unit No. | Emission Unit Description | Pollutant Emitted (5-80-720 B.) | Rated Capacity (5-80-720 C.) | |
|---|---|------------------------------------|---------------------------------|--|
| Used Oil | Used Oil Tank (emissions per compartment; 2 compartments) | VOC | 12,500 gal | |
| Return Oil | 1000 Gal return Oil tank | VOC | 1000 gal | |
| Parts washers | Safety-Kleen Parts Washers | VOC | 6.3 sq.ft. open area, each | |
| OWS1, OWS2 Oil-Water Separator VOC 220 gal/yr e | | | | |
| The regulatory citation for each of the insignificant activities is 9 VAC 5-80-720B - Insignificant due to emission levels. | | | | |

These emission units are presumed to be in compliance with all requirements of the federal Clean Air Act as may apply. Based on this presumption, no monitoring, recordkeeping, or reporting shall be required for these emission units in accordance with 9 VAC 5-80-490.

VIII. Permit Shield and Inapplicable Requirements

Compliance with the provisions of this permit shall be deemed compliance with all applicable requirements in effect as of the permit issuance date as identified in this permit. This permit shield covers only those applicable requirements covered by terms and conditions in this permit and the following requirements which have been specifically identified as being not applicable to this permitted facility:

| Citation | Title of Citation | Description of Applicability | |
|----------|-------------------|------------------------------|--|
| - | - | - | |

Nothing in this permit shield shall alter the provisions of § 303 of the federal Clean Air Act, including the authority of the administrator under that section, the liability of the owner for any violation of applicable requirements prior to or at the time of permit issuance, or the ability to obtain information by the administrator pursuant to § 114 of the federal Clean Air Act, (ii) the Board pursuant to § 10.1-1314 or § 10.1-1315 of the Virginia Air Pollution Control Law or (iii) the Department pursuant to § 10.1-1307.3 of the Virginia Air Pollution Control Law. (9 VAC 5-80-490 and 9 VAC 5-80-500)

IX. General Conditions

A. Federal Enforceability

All terms and conditions in this permit are enforceable by the administrator and citizens under the federal Clean Air Act, except those that have been designated as only state-enforceable.
(9 VAC 5-80-490 N)

B. Permit Expiration

This permit has a fixed term of five years and shall expire five years from the date of issuance. Unless a timely and complete renewal application, consistent with 9 VAC 5-80-430, has been submitted to the Department by the owner, the right of the facility to operate shall be terminated upon permit expiration.

- 1. The owner shall submit an application for renewal at least six months, but no earlier than eighteen months prior, to the date of permit expiration.
- If an applicant submits a timely and complete application for an initial permit or renewal under this section, the failure of the source to have a permit or the operation of the source without a permit shall not be a violation of Article 3, Part II of 9 VAC 5 Chapter 80, until the Board takes final action on the application under 9 VAC 5-80-510.
- 3. No source shall operate after the time that it is required to submit a timely and complete application under subsections C and D of 9 VAC 5-80-430 for a renewal permit, except in compliance with a permit issued under 9 VAC 5 Chapter 80, Part II, Article 3.
- 4. If an applicant submits a timely and complete application under section 9 VAC 5-80-430 for a permit renewal but the Board fails to issue or deny the renewal permit before the end of the term of the previous permit, (i) the previous permit shall not expire until the renewal permit has been issued or denied and (ii) all the terms and conditions of the previous permit, including any permit shield granted pursuant to 9 VAC 5-80-500, shall remain in effect from the date the application is determined to be complete until the renewal permit is issued or denied.
- 5. The protection under subsections F 1 and F 5 (ii) of sections 9 VAC 5-80-430 shall cease to apply if, subsequent to the completeness determination made pursuant to section 9 VAC 5-80-430 D, the applicant fails to submit by the deadline specified in writing by the Board any additional information identified as being needed to process the application.
- (9 VAC 5-80-430 B, C and F, 9 VAC 5-80-490, and 9 VAC 5-80-530 B)

C. Recordkeeping and Reporting

- All records of monitoring information maintained to demonstrate compliance with the terms and conditions of this permit shall contain, where applicable, the following:
 - The date, place as defined in the permit, and time of sampling or measurements.
 - b. The date(s) analyses were performed.
 - c. The company or entity that performed the analyses.
 - d. The analytical techniques or methods used.
 - e. The results of such analyses.
 - f. The operating conditions existing at the time of sampling or measurement. (9 VAC 5-80-490 F)
- Records of all monitoring data and support information shall be retained for at least five years from the date of the monitoring sample, measurement, report, or application. Support information includes all calibration and maintenance records and all original strip-chart recordings for continuous monitoring instrumentation, and copies of all reports required by the permit. (9 VAC 5-80-490 F)
- 3. The permittee shall submit quarterly reports of all as-fired coal feed analyses results, coal shipments received, as-received coal sulfur content, fuel supplier certifications, and SO₂ emissions in lb/hr and lb/MMBtu for each boiler stack, as specified in Conditions III.B.3 and III.B.5. These reports shall be submitted within 30 days of the end of each calendar quarter. (9 VAC 5-80-490 F and Conditions 4 and 8 of the SOP dated 1/13/2009 (as amended 10/19/2009))
- 4. The permittee shall submit semi-annual monitoring reports to DEQ no later than March 1 and September 1 of each calendar year. This report must be signed by a responsible official, consistent with 9 VAC 5-80-430 G, and shall include:
 - a. The time period included in the report. The time periods to be addressed are January 1 to June 30 and July 1 to December 31.
 - b. All deviations from permit requirements. For purposes of this permit, "deviations" include, but are not limited to:
 - i. Exceedance of emissions limitations or operational restrictions;
 - ii. Excursions from control device operating parameter requirements, as documented by continuous emission monitoring, periodic monitoring, or compliance assurance monitoring which indicates an exceedance of emission limitations or operational restrictions; or,

iii. Failure to meet monitoring, recordkeeping, or reporting requirements contained in this permit.

If there were no deviations from permit conditions during the time period, the permittee shall include a statement in the report that "no deviations from permit requirements occurred during this semi-annual reporting period." (9 VAC 5-80-490 F)

D. Annual Compliance Certification

Exclusive of any reporting required to assure compliance with the terms and conditions of this permit or as part of a schedule of compliance contained in this permit, the permittee shall submit to EPA and DEQ no later than <u>March 1</u> each calendar year a certification of compliance with all terms and conditions of this permit including emission limitation standards or work practices. The compliance certification shall comply with such additional requirements that may be specified pursuant to §114(a)(3) and §504(b) of the federal Clean Air Act. This certification shall be signed by a responsible official, consistent with 9 VAC 5-80-430 G, and shall include:

- 1. The time period included in the certification. The time period to be addressed is January 1 to December 31.
- 2. The identification of each term or condition of the permit that is the basis of the certification.
- 3. The compliance status.
- 4. Whether compliance was continuous or intermittent, and if not continuous, documentation of each incident of non-compliance.
- 5. Consistent with subsection 9 VAC 5-80-490 E, the method or methods used for determining the compliance status of the source at the time of certification and over the reporting period.
- 6. Such other facts as the permit may require to determine the compliance status of the source.

One copy of the annual compliance certification shall be sent to EPA at the following address:

Clean Air Act Title V Compliance Certification (3AP00) U.S. Environmental Protection Agency, Region III 1650 Arch Street Philadelphia, PA 19103-2029

(9 VAC 5-80-490 K.5)

E. Permit Deviation Reporting

The permittee shall notify the Director, Southwest Regional Office, within four daytime business hours after discovery of any deviations from permit requirements which may cause excess emissions for more than one hour, including those attributable to upset conditions as may be defined in this permit. In addition, within 14 days of the discovery, the permittee shall provide a written statement explaining the problem, any corrective actions or preventative measures taken, and the estimated duration of the permit deviation. Owners subject to the requirements of 9 VAC 5-40-50 C and 9 VAC 5-50-50 C are not required to provide the written statement prescribed in this paragraph for facilities subject to the monitoring requirements of 9 VAC 5-40-40 and 9 VAC 5-50-40. The occurrence should also be reported in the next semi-annual compliance monitoring report pursuant to General Condition IX.C.3 of this permit.

(9 VAC 5-80-490 F.2 and 9 VAC 5-80-650)

F. Failure/Malfunction Reporting

In the event that any affected facility or related air pollution control equipment fails or malfunctions in such a manner that may cause excess emissions for more than one hour, the owner shall, as soon as practicable but no later than four daytime business hours after the malfunction is discovered, notify the Director, Southwest Regional Office by facsimile transmission, telephone or telegraph of such failure or malfunction and shall within fourteen (14) days of discovery provide a written statement giving all pertinent facts, including the estimated duration of the breakdown. Owners subject to the requirements of 9 VAC 5-40-50 C, and 9 VAC 5-50-50 C, are not required to provide the written statement prescribed in this paragraph for facilities subject to the monitoring requirements of 9 VAC 5-40-40 and 9 VAC 5-50-40. When the condition causing the failure or malfunction has been corrected and the equipment is again in operation, the owner shall notify the Director, Southwest Regional Office.

- (9 VAC 5-20-180 C)
- 1. The emission units that have continuous monitors subject to 9 VAC 5-40-50 C and 9 VAC 5-50-50 C are not subject to the 14 day written notification.
- 2. The emission units subject to the reporting and the procedure requirements of 9 VAC 5-40-50 C and the procedures of 9 VAC 5-50-50 C are listed below:
 - a. Unit Ref. No.'s CR1 and CR2 (Stack 1); and
 - b. Unit Ref. No. CR3 (Stack 2)
- 3. Each owner required to install a continuous monitoring system subject to 9 VAC 5-40-41 or 9 VAC 5-50-410 shall submit a written report of excess emissions (as defined in the applicable emission standard) to the Board for every calendar quarter. All quarterly reports shall be postmarked by the 30th day following the end of each calendar quarter and shall include the following information:

- a. The magnitude of excess emissions computed in accordance with 40 CFR 60.13(h) or 9 VAC 5-40-41 B.6, any conversion factors used, and the date and time of commencement and completion of each period of excess emissions;
- Specific identification of each period of excess emissions that occurs during startups, shutdowns, and malfunctions of the source. The nature and cause of any malfunction (if known), the corrective action taken or preventative measures adopted;
- The date and time identifying each period during which the continuous monitoring system was inoperative except for zero and span checks and the nature of the system repairs or adjustments; and
- d. When no excess emissions have occurred or the continuous monitoring systems have not been inoperative, repaired or adjusted, such information shall be stated in the report.

(9 VAC 5-20-180 C, 9 VAC 5-40-50, and 9 VAC 5-50-50)

G. Severability

The terms of this permit are severable. If any condition, requirement or portion of the permit is held invalid or inapplicable under any circumstance, such invalidity or inapplicability shall not affect or impair the remaining conditions, requirements, or portions of the permit.

(9 VAC 5-80-490 G.1)

H. Duty to Comply

The permittee shall comply with all terms and conditions of this permit. Any permit noncompliance constitutes a violation of the federal Clean Air Act or the Virginia Air Pollution Control Law or both and is grounds for enforcement action; for permit termination, revocation and reissuance, or modification; or for denial of a permit renewal application.

(9 VAC 5-80-490 G.2)

I. Need to Halt or Reduce Activity not a Defense

It shall not be a defense for a permittee in an enforcement action that it would have been necessary to halt or reduce the permitted activity in order to maintain compliance with the conditions of this permit. (9 VAC 5-80-490 G.3)

J. Permit Modification

A physical change in, or change in the method of operation of, this stationary source may be subject to permitting under State Regulations 9 VAC 5-80-50, 9 VAC 5-80-100, 9 VAC 5-80-1605, or 9 VAC 5-80-2000, and may require a permit

modification and/or revisions except as may be authorized in any approved alternative operating scenarios. (9 VAC 5-80-550 and 9 VAC 5-80-660)

K. Property Rights

The permit does not convey any property rights of any sort, or any exclusive privilege.
(9 VAC 5-80-490 G.5)

L. Duty to Submit Information

- 1. The permittee shall furnish to the Board, within a reasonable time, any information that the Board may request in writing to determine whether cause exists for modifying, revoking and reissuing, or terminating the permit or to determine compliance with the permit. Upon request, the permittee shall also furnish to the Board copies of records required to be kept by the permit and, for information claimed to be confidential, the permittee shall furnish such records to the Board along with a claim of confidentiality. (9 VAC 5-80-490 G.6)
- Any document (including reports) required in a permit condition to be submitted to the Board shall contain a certification by a responsible official that meets the requirements of 9 VAC 5-80-80 G and 9 VAC 5-80-430 G. (9 VAC 5-80-490 K.1)

M. Duty to Pay Permit Fees

The owner of any source for which a permit under 9 VAC 5-80-50 through 9 VAC 5-80-305 and/or 9 VAC 5-80-360 through 9 VAC 5-80-700 was issued shall pay permit fees consistent with the requirements of 9 VAC 5-80-310 through 9 VAC 5-80-350. The actual emissions covered by the permit program fees for the preceding year shall be calculated by the owner and submitted to the Department by April 15 of each year. The calculations and final amount of emissions are subject to verification and final determination by the Department. (9 VAC 5-80-490 H)

N. Fugitive Dust Emission Standards

During the operation of a stationary source or any other building, structure, facility or installation, no owner or other person shall cause or permit any materials or property to be handled, transported, stored, used, constructed, altered, repaired, or demolished without taking reasonable precautions to prevent particulate matter from becoming airborne. Such reasonable precautions may include, but are not limited, to the following:

Operating Permit SWRO10236 Clinch River Plant APCO/AEP Page 22 of 31

- 1. Use, where possible, of water or chemicals for control of dust in the demolition of existing buildings or structures, construction operations, the grading of roads, or the clearing of land;
- 2. Application of asphalt, water, or suitable chemicals on dirt roads, materials stockpiles, and other surfaces which may create airborne dust; the paving of roadways and the maintaining of them in a clean condition;
- 3. Installation and use of hoods, fans, and fabric filters to enclose and vent the handling of dusty material. Adequate containment methods shall be employed during sandblasting or other similar operations;
- 4. Open equipment for conveying or transporting material likely to become airborne and create objectionable air pollution, shall be covered (or treated in an equally effective manner) at all times when in motion; and
- The prompt removal of spilled or tracked dirt or other materials from paved streets and of dried sediments resulting from soil erosion.
 VAC 5-50-90, 9 VAC 5-80-490, and Condition 4 of the NSR permit dated 3/23/2010)

O. Startup, Shutdown, and Malfunction

At all times, including periods of startup, shutdown, soot blowing, and malfunction, owners shall, to the extent practicable, maintain and operate any affected facility including associated air pollution control equipment in a manner consistent with air pollution control practices for minimizing emissions. Determination of whether acceptable operating and maintenance procedures are being used will be based on information available to the Board, which may include, but is not limited to, monitoring results, opacity observations, review of operating and maintenance procedures, and inspection of the source.

(9 VAC 5-50-20 E and 9 VAC 5-80-490)

P. Alternative Operating Scenarios

Contemporaneously with making a change between reasonably anticipated operating scenarios identified in this permit, the permittee shall record in a log at the permitted facility a record of the scenario under which it is operating. The permit shield described in 9 VAC 5-80-500, shall extend to all terms and conditions under each such operating scenario. The terms and conditions of each such alternative scenario shall meet all applicable requirements including the requirements of 9 VAC 5 Chapter 80, Article 3. (9 VAC 5-80-490 J)

Q. Inspection and Entry Requirements

The permittee shall allow DEQ, upon presentation of credentials and other documents as may be required by law, to perform the following:

- Enter upon the premises where the source is located or emissions-related activity is conducted, or where records must be kept under the terms and conditions of the permit.
- 2. Have access to and copy, at reasonable times, any records that must be kept under the terms and conditions of the permit.
- 3. Inspect at reasonable times any facilities, equipment (including monitoring and air pollution control equipment), practices, or operations regulated or required under the permit.
- 4. Sample or monitor at reasonable times substances or parameters for the purpose of assuring compliance with the permit or applicable requirements. (9 VAC 5-80-490 K.2)

R. Reopening For Cause

The permit shall be reopened by the Board if additional federal requirements become applicable to a major source with a remaining permit term of three or more years. Such a reopening shall be completed not later than 18 months after promulgation of the applicable requirement. No such reopening is required if the effective date of the requirement is later than the date on which the permit is due to expire, unless the original permit or any of its terms and conditions has been extended pursuant to 9 VAC 5-80-430 F.

- 1. The permit shall be reopened if the Board or the administrator determines that the permit contains a material mistake or that inaccurate statements were made in establishing the emissions standards or other terms or conditions of the permit.
- 2. The permit shall be reopened if the administrator or the Board determines that the permit must be revised or revoked to assure compliance with the applicable requirements.
- 3. The permit shall not be reopened by the Board if additional applicable state requirements become applicable to a major source prior to the expiration date established under 9 VAC 5-80-490 D.
- (9 VAC 5-80-490 L)

S. Permit Availability

Within five days after receipt of the issued permit, the permittee shall maintain the permit on the premises for which the permit has been issued and shall make the permit immediately available to DEQ upon request. (9 VAC 5-80-510 E)

T. Transfer of Permits

- 1. No person shall transfer a permit from one location to another or from one piece of equipment to another.
- 2. In the case of a transfer of ownership of a stationary source, the new owner shall comply with any current permit issued to the previous owner. The new owner shall notify the Board of the change in ownership within 30 days of the transfer and shall comply with the requirements of 9 VAC 5-80-560.
- 3. In the case of a name change of a stationary source, the owner shall comply with any current permit issued under the previous source name. The owner shall notify the Board of the change in source name within 30 days of the name change and shall comply with the requirements of 9 VAC 5-80-560.
 (9 VAC 5-80-520)

U. Malfunction as an Affirmative Defense

- A malfunction constitutes an affirmative defense to an action brought for noncompliance with technology-based emission limitations if the provisions of paragraph 2 of this condition are met.
- 2. The affirmative defense of malfunction shall be demonstrated by the permittee through properly signed, contemporaneous operating logs, or other relevant evidence that show the following:
 - a. A malfunction occurred and the permittee can identify the cause or causes of the malfunction.
 - b. The permitted facility was at the time being properly operated.
 - c. During the period of the malfunction the permittee took all reasonable steps to minimize levels of emissions that exceeded the emission standards, or other requirements in the permit.
 - d. The permittee notified the Board of the malfunction within two working days following the time when the emission limitations were exceeded due to the malfunction. This notification shall include a description of the malfunction, any steps taken to mitigate emissions, and corrective actions taken. The notification may be delivered either orally or in writing. The notification may be delivered by electronic mail, facsimile transmission, telephone, or any other method that allows the permittee to comply with the deadline. This

Operating Permit SWRO10236 Clinch River Plant APCO/AEP Page 25 of 31

notification fulfills the requirements of 9 VAC 5-80-110 F.2.b, to promptly report deviations from permit requirements. This notification does not release the permittee from the malfunction reporting requirement under 9 VAC 5-20-180 C.

- 3. In any enforcement proceeding, the permittee seeking to establish the occurrence of a malfunction shall have the burden of proof.
- The provisions of this section are in addition to any malfunction, emergency or upset provision contained in any requirement applicable to the source.
 VAC 5-80-650)

V. Permit Revocation or Termination for Cause

A permit may be revoked or terminated prior to its expiration date if the owner knowingly makes material misstatements in the permit application or any amendments thereto, or if the permittee violates, fails, neglects or refuses to comply with the terms or conditions of the permit, any applicable requirements, or the applicable provisions of 9 VAC 5 Chapter 80, Part II, Articles 1 and 3. The Board may suspend, under such conditions and for such period of time as the Board may prescribe any permit for any of the grounds for revocation or termination or for any other violations of these regulations.

(9 VAC 5-80-550 C and 9 VAC 5-80-660)

W. Duty to Supplement or Correct Application

Any applicant who fails to submit any relevant facts or who has submitted incorrect information in a permit application shall, upon becoming aware of such failure or incorrect submittal, promptly submit such supplementary facts or corrections. An applicant shall also provide additional information as necessary to address any requirements that become applicable to the source after the date a complete application was filed but prior to release of a draft permit. (9 VAC 5-80-430 E)

X. Stratospheric Ozone Protection

If the permittee handles or emits one or more Class I or II substance subject to a standard promulgated under or established by Title VI (Stratospheric Ozone Protection) of the federal Clean Air Act, the permittee shall comply with all applicable sections of 40 CFR Part 82, Subparts A to F. (40 CFR Part 82, Subparts A - F)

Y. Asbestos Requirements

The permittee shall comply with the requirements of National Emissions Standards for Hazardous Air Pollutants (40 CFR 61) Subpart M, National Emission Standards for Asbestos as it applies to the following: Standards for Demolition and Renovation

Operating Permit SWRO10236 Clinch River Plant APCO/AEP Page 26 of 31

(40 CFR 61.145), Standards for Insulating Materials (40 CFR 61.148), and Standards for Waste Disposal (40 CFR 61.150). (9 VAC 5-60-70 and 9 VAC 5-80-490.A.1)

Z. Accidental Release Prevention

If the permittee has more, or will have more than a threshold quantity of a regulated substance in a process, as determined under 40 CFR 68.115, the permittee shall comply with the requirements of 40 CFR Part 68. (40 CFR Part 68)

AA. Changes to Permits for Emissions Trading

No permit revision shall be required, under any federally approved economic incentives, marketable permits, emissions trading and other similar programs or processes for changes that are provided for in this permit. (9 VAC 5-80-490 I)

BB. Emissions Trading

Where the trading of emissions increases and decreases within the permitted facility is to occur within the context of this permit and to the extent that the regulations provide for trading such increases and decreases without a case-by-case approval of each emissions trade:

- 1. All terms and conditions required under 9 VAC 5-80-490, except subsection N, shall be included to determine compliance.
- 2. The permit shield described in 9 VAC 5-80-500 shall extend to all terms and conditions that allow such increases and decreases in emissions.
- The owner shall meet all applicable requirements including the requirements of 9 VAC 5-80-360 through 9 VAC 5-80-700.
 VAC 5-80-490 I)

X. NO_X Budget Trading Program Requirements

A. General Conditions

1. A review of the air emission units included in this permit approval has determined that the equipment listed in Table X-1 meets the definition of a NO_X Budget Unit and falls subject to the NO_X Budget emission limitations under 9 VAC 5-140-40. As required by 9 VAC 5-140-200 A, each NO_X Budget source required to have a federally enforceable permit, such permit will include a NO_X Budget permit to be administered by the permitting authority. This section of the document represents the NO_X Budget permit. (9 VAC 5-140-40)

- The NO_X Budget permit will be administrated by the DEQ under the authority of 9 VAC 5 Chapter 80, Part II, Article 3 (9 VAC 5-80-360 et seq.) and 9 VAC 5 Chapter 140, Part I (9 VAC 5-140-10 et seq.). (9 VAC 5-140-200 A)
- 3. The following air emission units have been determined to meet the applicability requirements as provided in 9 VAC 5-140-40 A.1 and A.2. Units that do not meet this definition, are not defined as "25-ton exemption units" and are not permanently shutdown can be included in the NO_X Budget Trading program as "opt-in" air emission sources. (9 VAC 5-140-40 A)

| | Table X - 1 Facility NO _X Budget Units | | | | | |
|---|---|--|--------|-------------------|--|--|
| Facility Unit ID NATS Account ID NATS Account ID NATS Account (MMBtu/hr) NATS Account (MMBtu/hr) NATS Account (MMBtu/hr) | | | | • - | | |
| Unit 1 | 003775- 000001 | Babcock and Wilcox Radiant Tube Boiler (RB-363) | 2100.9 | Nominal 235 MW | | |
| Unit 2 | 003775- 000002 | Babcock and Wilcox Radiant Tube Boiler (RB-363) | 2100.9 | Nominal 235 MW | | |
| Unit 3 | 003775- 000003 | Babcock and Wilcox Radiant Tube Boiler (RB-363) | 2100.9 | Nominal 235 MW | | |

B. Standard Requirements

- 1. Continuous monitoring requirements.
 - a. The owners and operators and, to the extent applicable, the NO_X authorized account representative of each NO_X Budget source and each NO_X Budget unit at the source shall comply with the monitoring requirements of Part I, Article 8 (9 VAC 5-140-700 et seq.). (9 VAC 5-140-60 B.1)
 - b. The emissions measurements recorded and reported in accordance with (9 VAC 5-140-700 et seq.) (Subpart H of 40 CFR Part 97) shall be used to determine compliance by the unit with the NO_X Budget emissions limitation under paragraphs X.B.2.a through X.B.2.h. (9 VAC 5-140-60 B.2)
- 2. Nitrogen oxides requirements.
 - a. The owners and operators of each NO_X Budget source and each NO_X Budget unit at the source shall hold NO_X allowances available for compliance deductions under 9 VAC 5-140-540 A, B, E, or F, as of the NO_X allowance transfer deadline, in the unit's compliance account and the source's overdraft account in an amount not less than the total NO_X emissions for the control

Operating Permit SWRO10236 Clinch River Plant APCO/AEP Page 28 of 31

period from the unit, as determined in accordance with Part I, Article 8 (9 VAC 5-140-700 et seq.), plus any amount necessary to account for actual utilization under 9 VAC 5-140-420 E for the control period or to account for excess emissions for a prior control period under 9 VAC 5-140-540 D or to account for withdrawal from the NO $_{\rm X}$ Budget Trading Program, or a change in regulatory status, of a NO $_{\rm X}$ Budget opt-in unit under 9 VAC 5-140-860 or 9 VAC 5-140-870.

(9 VAC 5-140-60 C.1)

- Each ton of nitrogen oxides emitted in excess of the NO_X Budget emissions limitation shall constitute a separate violation of the Clean Air Act and applicable Virginia Air Pollution Control law. (9 VAC 5-140-60 C.2)
- c. A NO_X Budget unit shall be subject to the requirements under 9 VAC 5-140-60 C.1 starting on May 1, 2010.
 (9 VAC 5-140-60 C.3)
- d. NO_X allowances shall be held in, deducted from, or transferred among NO_X Allowance Tracking System accounts in accordance with 9 VAC 5-140-400 et seq., 9 VAC 5-140-500 et seq., 9 VAC 5-140-600 et seq., 9 VAC 5-140-600 et seq.). (9 VAC 5-140-60 C.4)
- e. A NO_X allowance shall not be deducted in order to comply with the requirements under 9 VAC 5-140-60 C.1 for a control period in a year prior to the year for which the NO_X allowance was allocated. (9 VAC 5-140-60 C.5)
- f. A NO_X allowance allocated by the permitting authority or the administrator under the NO_X Budget Trading Program is a limited authorization to emit one ton of nitrogen oxides in accordance with the NO_X Budget Trading Program. No provision of the NO_X Budget Trading Program, the NO_X Budget permit application, the NO_X Budget permit, or an exemption under 9 VAC 5-140-50 and no provision of law shall be construed to limit the authority of the United States or the State to terminate or limit such authorization. (9 VAC 5-140-60 C.6)
- g. A NO_X allowance allocated by the permitting authority or the administrator under the NO_X Budget Trading Program does not constitute a property right. (9 VAC 5-140-60 C.7)
- h. Upon recordation by the administrator under Part I, Article 6 (9 VAC 5-140-500 et seq.), Article 7 (9 VAC 5-140-600 et seq.), or Article 9 (9 VAC 5-140-800 et seq.), every allocation, transfer, or deduction of a NO_X allowance to or from a NO_X Budget unit's compliance account or the overdraft account of the source where the unit is located is deemed to amend automatically, and become a part of, any NO_X Budget permit of the NO_X Budget unit by operation of law without any further review. (9 VAC 5-140-60 C.8)

3. Excess emissions requirements.

The owners and operators of a NO_X Budget unit that has excess emissions in any control period shall:

- a. Surrender the NO_X allowances required for deduction under 9 VAC 5-140-540 D 1; and
- b. Pay any fine, penalty, or assessment or comply with any other remedy imposed under 9 VAC 5-140-540 D 3.
 (9 VAC 5-140-60 D)

C. Recordkeeping and Reporting Requirements

The following requirements concerning recordkeeping and reporting shall apply:

- 1. Unless otherwise provided, the owners and operators of the NO_X Budget source and each NO_X Budget unit at the source shall keep on site at the source each of the following documents for a period of five years from the date the document is created. This period may be extended for cause, at any time prior to the end of five years, in writing by the permitting authority or the administrator.
 - a. The account certificate of representation for the NO_X authorized account representative for the source and each NO_X Budget unit at the source and all documents that demonstrate the truth of the statements in the account certificate of representation, in accordance with 9 VAC 5-140-130; provided that the certificate and documents shall be retained on site at the source beyond such five-year period until such documents are superseded because of the submission of a new account certificate of representation changing the NO_X authorized account representative.
 - All emissions monitoring information, in accordance with Part I, Article 8
 (9 VAC 5-140-700 et seq.), provided that to the extent that Part I, Article 8
 (9 VAC 5-140-700 et seq.) provides for a three-year period for recordkeeping, the three-year period shall apply.
 - c. Copies of all reports, compliance certifications, and other submissions and all records made or required under the NO_X Budget Trading Program.
 - d. Copies of all documents used to complete a NO_X Budget permit application and any other submission under the NO_X Budget Trading Program or to demonstrate compliance with the requirements of the NO_X Budget Trading Program.

(9 VAC 5-140-60 E.1)

2. The NO_X authorized account representative of a NO_X Budget source and each NO_X Budget unit at the source shall submit the reports and compliance certifications required under the NO_X Budget Trading Program, including those under Part I, Article 4 (9 VAC 5-140-300 et seq.), Article 8 (9 VAC 5-140-700 et seq.), or Article 9 (9 VAC 5-140-800 et seq.). (9 VAC 5-140-60 E.2)

D. Certification

The permitted facility shall be constructed so as to allow for emissions testing at any time using appropriate methods. Upon request from the Department, test ports will be provided at the appropriate locations. (9 VAC 5-50-30 and 9 VAC 5-140-300)

E. Liability

1. Any person who knowingly violates any requirement or prohibition of the NO_X Budget Trading Program, a NO_X Budget permit, or an exemption under 9 VAC 5-140-50 shall be subject to enforcement pursuant to applicable State or Federal law.

(9 VAC 5-140-60 F.1)

- Any person who knowingly makes a false material statement in any record, submission, or report under the NO_X Budget Trading Program shall be subject to criminal enforcement pursuant to the applicable State or Federal law. (9 VAC 5-140-60 F.2)
- 3. No permit revision shall excuse any violation of the requirements of the NO_X Budget Trading Program that occurs prior to the date that the revision takes effect.

(9 VAC 5-140-60 F.3)

- 4. Each NO_X Budget source and each NO_X Budget unit shall meet the requirements of the NO_X Budget Trading Program. (9 VAC 5-140-60 F.4)
- 5. Any provision of the NO_X Budget Trading Program that applies to a NO_X Budget source or the NO_X authorized account representative of a NO_X Budget source shall also apply to the owners and operators of such source and of the NO_X Budget units at the source. (9 VAC 5-140-60 F.5)
- 6. Any provision of the NO_X Budget Trading Program that applies to a NO_X Budget unit or the NO_X authorized account representative of a NO_X budget unit shall also apply to the owners and operators of such unit. Except with regard to the requirements applicable to units with a common stack under Article 8 (9 VAC 5-140-700 et seq.), the owners and operators and the NO_X authorized account representative of one NO_X Budget unit shall not be liable for any violation by any other NO_X Budget unit of which they are not owners or operators or the NO_X authorized account representative and that is located at a source of which they are not owners or operators or the NO_X authorized account representative. (9 VAC 5-140-60 F.6)

Operating Permit SWRO10236 Clinch River Plant APCO/AEP Page 31 of 31

F. Effect on Other Authorities

No provision of the NO_X Budget Trading Program, a NO_X Budget permit application, a NO_X Budget permit, or an exemption under 9 VAC 5-140-50 shall be construed as exempting or excluding the owners and operators and, to the extent applicable, the NO_X authorized account representative of a NO_X Budget source or NO_X Budget unit from compliance with any other provision of the applicable, approved State implementation plan, a federally enforceable permit, the Clean Air Act. (9 VAC 5-140-60 G)

XI. Clean Air Interstate Rule (CAIR) Requirements

The permittee shall comply with all applicable CAIR requirements (9 VAC 5-140-1010 et seq., 9 VAC 5-140-2010 et seq., 9 VAC 5-140-3010 et seq., 9 VAC 5-140-5010 et seq., and 40 CFR Part 96) by the compliance date in the respective Part of 9 VAC 5 Chapter 140, as contained in the CAIR Permit. The CAIR Permit is Attachment B to this document and expires upon expiration of this Title V operating permit. (9 VAC 5-80-490, 40 CFR Part 96, and 9 VAC 5 Chapter 140)